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# PROGRAMMES AND POLICIES OF THE INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

## PUBLIC AND PRIVATE SECTOR INTERFACE

## From disaster management to sustainable development: How the public sector, private sector and voluntary organizations can work together

### Programme

The session on public and private sector interface has been organized by the World Health Organization (WHO).

### Objective

The session addresses national and international policymakers, financial institutions, donors and professionals involved in development and emergency management regarding policies, strategies and means that integrate disaster management within a sustainable development cycle.

No country is safe from the impact of major and complex emergencies, which are becoming more frequent and more severe. Since the 1980s, money and manpower for disaster relief has soared, yet we are no closer than before to bridging the humanitarian gap.

Today's predominant crisis solving-oriented approach to disasters is not sustainable. It creates cultures of dependency and triggers vicious cycles of underdevelopment. It upsets fragile ecosystems and leads to mass movements of people. It often drains scarce resources from local, national and international organizations which provide humanitarian assistance, without ensuring that disaster relief serves as a springboard for future sustainable development.

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In fact, sustainable development is not possible without addressing the damage to development wrought by disasters. Sustainable development has been defined as "improving the quality of human life while living within the carrying capacity of supporting ecosystems." 1/ Because public health status is a key indicator in determining the level of sustainable development, because disasters cause large numbers of deaths, illness, injuries and disabilities, and because disasters destroy public health infrastructure and strain health personnel resources, the World Health Organization is seeking new ways to address the rising toll of disasters on society.

No one sector or organization, however, can do it alone. Disasters are by definition beyond the coping capacity of the stricken community. All parts of society are affected by disasters, and all have a role to play.

This session features leaders in business, government and voluntary organizations who outline their experiences related to disaster and development. Based on their experience, they offer a cost-effective, new paradigm for emergency management that is integrated into a cycle of sustainable development. 2/ The new paradigm is based on formal partnerships between all parts of society that build a "preventive culture" towards disasters. The emphasis is on disaster prevention, mitigation and emergency preparedness activities as an extension of ongoing development activities. Where emergencies occur, such partnerships provide an efficient means to reduce the impact of disasters, and ensure that recovery and rehabilitation activities lead to long-term sustainable development.

The speakers outline the elements needed to make this approach succeed: political will, public awareness, development of local and national resources, and strong cooperation between public, private and voluntary sectors. This cooperation must be based on clear division of responsibilities between the public, private and voluntary sectors: each has a role to play and the roles have to be complementary and efficiently coordinated. The speakers outline comparative advantages of their sectors in a disaster management partnership that fits within the framework of sustainable development, discuss constraints in achieving such a partnership, and offer constructive solutions that countries can adapt to their needs.

## Notes

1/ "Caring for the Earth", WWF, UNEP, IUCN, 1991.

2/ Incorporation of emergency management in the sustainable development cycle reflects WHO's position on international discussions of the relief-development continuum.

## Presentations

Introduction

An introductory statement will be made by a high-level official of the World Health Organization

Coping with disasters: a culture in Egypt

Professor M. Mahfouz, Chairman, Public Services Committee of the Shoura (Senate) Assembly and former Minister of Health, Egypt

Relationship between the public and private sector in emergency prevention and preparedness: the Italian experience

Ing. Carlo Presenti, Head of the National Department for Technical Services, Presidency of the Council of Ministers, Italy

Role of non-governmental and private voluntary organizations in disaster reduction

Ms. Julia Taft, President and Chief Executive Officer, Interaction (United States of America)

Emergency management in Africa: a social responsibility

Mr. A. Tevoedjre, President, Centre africain de prospective sociales, member-designate, Scientific and Technical Committee, International Decade for Natural Disaster Reduction (Benin)

Partnership role of non-governmental organizations in a new disaster management paradigm

Ms. Marcia Feria-Miranda, Specialist in social marketing and partnership development (Philippines)

Cost of disasters: areas of cooperation with the insurance industry

Mr. Gerhard Berz, Head, Geoscience Research Group, Munich Reinsurance Company (Germany)

Role of the private sector in disaster management

Mr. R. Natarajan, President, Union Carbide Asia Pacific (Singapore)

Session commentator: Mr. K. Lyonette, Director, Conservation Policy, World Wide Fund for Nature

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# PROGRAMMES AND POLICIES OF THE INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

## PUBLIC AND PRIVATE SECTOR INTERFACE

## From disaster management to sustainable development: How the public sector, private sector and voluntary organizations can work together

## Addendum

## Summaries of presentations

## Coping with disasters: a culture in Egypt

Summary of presentation by Professor Mahmoud Mohammed Mahfouz
Chairman, Public Services Committee of the Shoura (Senate)
Assembly and former Minister of Health, Egypt

With 95 per cent of its land arid and uninhabitable, Egyptians have been vulnerable to a wide range of disasters for thousands of years. Community traditions to cope with flash floods from the Nile River, drought from the Sahara desert, conflicts and other catastrophes have ancient origins. Disasters were perceived as "acts of God". Some ancient traditions were practical, while others were founded on fatalism, superstition and sacrifice.

Egypt's disaster legislation was based on civil defense concepts following World War II and the 1948 war. After the peace treaty of 1979, civil defense was expanded to include natural disasters. This legislation reflected the growing twentieth century recognition that, with the help of technology, countries can successfully manage disasters.

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This legislation, however, was not enough. The earthquake of October 1992 showed disaster management weaknesses due to lack of pre-disaster coordination. No set and tested mechanisms for coordination between different government departments were in place; the function of NGOs and private firms was not clear; there was a lack of comprehensive mechanisms to coordinate national and provincial activities; no measures were in place to mobilize community support in an effective way.

The Egyptian Senate subsequently adopted, in March 1993, a report entitled "About a National Plan to Combat Natural and Man-made Disasters". Based on a conference sponsored by the World Health Organization and the International Civil Defence Organization, attended by top-level government officers, academics and non-governmental organizations (NGOs), the Egyptian Government officially adopted a document on "National Policy and Strategy for Emergency Management in Egypt", (November 1993) and the Egyptian Civil Protection Organization was recognized as the overall coordinating agency for emergency preparedness and response in Egypt.

In the process, Egyptians have discovered that the planning process to prepare for emergencies is similar and related to the process of socio-economic planning. To build consensus for a single coordinating plan requires patience, as the overall plan must include the activities of various services, such as health, public works, social welfare, etc. The health sector alone, for example, needs a functional sub-plan that fits into the overall national plan. This health sector sub-plan must include activities of such diverse partners as the Ministry of Health; the Red Crescent Society and other NGOs; private firms operating clinics, ambulances, and other medical services; and medical universities which can provide training and conduct applied research.

In another example, the national planning process has been helpful in clarifying the role of the Research Academy, as there were some partners who had expected it to coordinate the country's emergency management because it represents the IDNDR national committee in Egypt.

In conclusion, while there is now a strong political will to improve Egypt's prevention and preparedness approach to disasters, the task of coordination is time-consuming and requires patience. The risk remains that the momentum will be lost among some of the partners needed in the process. Advocacy at the international level will help keep up the momentum.

## Relationship between public and private sector in emergency prevention and preparedness: the Italian experience

### Summary of presentation by Ing. Carlo Presenti, Head, Department of National Technical Services, Presidency of the Council of Ministers, Italy

Research and technical services are crucial to successful emergency management. It is because of the importance of applied research, in fact, that

IDNDR was initially declared. Researchers break the barriers of current knowledge in order to master phenomena which are perceived as "beyond

control". Scientific research gives countries up-to-date technical tools to assess their territory's vulnerability and monitor disaster management systems.

To make the best use of the "added value" of research, countries need an emergency management policy that is well thought out. The policy should be based on the comparative advantages of all partners: public authorities, the private sector and voluntary organizations. This includes research and technical capacities of institutes, companies and universities.

Roles and responsibilities of each partner should be based on technical capabilities and cost-effectiveness. Otherwise it could be counter-productive. Two of the most common mistakes:

- Public authorities have a tendency to delegate day-to-day disaster prevention and preparedness management activities to outside partners such as universities. They do it to save money.

- The public sector is often passive in disaster management. Because of its profit orientation, the private sector is pro-active. It lobbies for specific equipment/systems which may not be necessary and are usually quite expensive.

This is what happened in Italy, with the result that the country is still backward in terms of prevention and preparedness. Using outside research bodies to monitor and manage disaster prevention and preparedness has not been effective. Methods are not standard, approaches are piecemeal and so are the results. Costs for providing these services are much higher than if government were to do it. The researchers are usually over-qualified and do not match the profile for the tasks requested. Meanwhile, cutting-edge innovative research is neglected because researchers divert their energies to daily monitoring tasks.

Weak and malfunctioning services also have brought about distorted relations with the private sector. Companies can be very pro-active in seeking support for their own initiatives, which public administrators do not always have the means to assess. It is therefore essential that governments develop their own planning and control capacity in order to call for tenders through fair and transparent procedures.

Regarding the role of non-governmental organizations, they can be highly effective in coordinating voluntary services required by public authorities. Voluntary organizations are also helpful in drawing the attention of the general public to problems related to disasters.

## Role of non-governmental organizations and private voluntary organizations in disaster reduction

### Summary of presentation by Ms. Julia Taft, President and Chief Executive Officer, Interaction (United States of America)

Non-governmental organizations have become the primary implementors of disaster relief programmes, and, therefore, should be included in all phases of the planning and implementation process for disaster prevention and mitigation.

In that natural disasters tend to slow down or erase development progress, development and disaster professionals need to interact more effectively on disaster reduction programmes rather than to work separately and exclusively as is often the case.

While we have perfected much in the way of disaster early warning technology, too often government inaction and the lack of public awareness programmes renders these technologies useless. Non-governmental organizations as well as key players in the private sector are in the best position to mobilize people to act. Also, these organizations are best able to inform the public and local authorities on the availability of scientific and technological assistance for disaster prevention and early warning.

Although high-tech early warning systems are useful, the most critical factor in mitigating disasters is contingency planning based on lessons learned in prior disasters. Currently the disaster to development continuum is being widely discussed; however, development strategies seldom acknowledge the probability of recurrent drought, floods or other disasters. One exception is the drought prone Sahelian region of Africa where donors, NGOs and the affected governments have successfully integrated relief and development. In the Armenian earthquake, on the other hand, the lack of construction codes and standards and their enforcement resulted in the terrible loss of life, and clearly demonstrated that reliance on early warning systems or on contingency planning alone is not enough in many situations. Comprehensive policies, therefore, that account for disasters can significantly reduce the impact of disasters and save millions of development dollars in the process.

Given the dramatic increase in disasters over the past decade, there is a critical need to also increase the professionalism of NGO disaster workers at the international as well as the local, grass-roots levels. Disaster management is a relatively new field with few formal courses of study in technical schools or universities. It is, therefore, incumbent on the NGOs themselves in collaboration with donor governments and authorities and communities in disaster prone countries to raise their skills through training, and also to develop standards for positions in the field of disaster relief. Training as well as strategic relief programmes that strengthen local capacities can help lay the groundwork for successful rehabilitation, and ultimately development.

## Disaster management in Africa: a social responsibility

Mr. A. Tevoedire, President, Centre africain de prospectives sociales (Benin)

If we look at a map of Africa showing the risks of various disasters, we can see that no African country is spared. If in addition we consider the complex crises which are now unfolding or appear to be imminent, the situation acquires a particular urgency and reflects the depth of the human tragedy of that continent.

The typical scenario of a natural (or other) disaster in an African country shows that:

- these countries, and in particular the local communities at risk, have not taken advantage of periods of peace and development to introduce preventive measures aimed at mitigating the risks;

- the authorities, once aware of the situation, direct their efforts towards mobilizing international aid, since they have no statutory relief plan, no specific inter-sectoral arrangements and no crisis management tools at their disposal;

- the haphazard delivery of international aid and the generally ad hoc approach, without any coordination between the various bodies involved, exacerbates the confusion at the scene of the disaster and compounds its effects;

- NGOs, virtually absent from the scene in normal times, spring up from nowhere when a disaster occurs, pursuing diverging aims;

- competition for humanitarian aid resources among the various bodies involved - public sector agencies, international NGOs and other international bodies, and newcomer local NGOs - completes the overall picture of chaos.

In this context, it would be inappropriate to focus exclusively on the role of African NGOs for the simple reason that current realities and practice in Africa prevent such organizations from playing a considered role within an overall plan.

The problem we are trying to bring out is beyond the capacity of the voluntary sector to solve on its own, and concerns above all the responsibility of the leaders. African leaders must realize that disaster management is one of their main responsibilities and one which requires the same level of preparation and planning as socio-economic development.

The countries of Africa must together develop policies and strategies calculated to reduce their vulnerability and enable them to respond promptly to

disasters, firstly, by using their own resources and, secondly, by taking advantage of international aid to complement and enhance action at local level.

Preparation for disasters, as an integral part of socio-economic development, must be based on collaboration between the public sector and NGOs, with a clear definition of the various roles and responsibilities of those bodies, and on appropriate training and public education to ensure that adequately qualified and experienced personnel are available.

The lack of coherent national policies and of local NGO involvement in disaster management has its roots in African culture: in the absence of any social security system, the extended family is expected to assist disaster victims.

However, if Africa wishes to mitigate the tragic consequences of disasters, a different approach will be needed and some fundamental issues will have to be readdressed: what is the central body in each country responsible for cataloguing disasters and assessing their impact? Are trained personnel available?

As regards the NGOs, steps should be taken to promote their creation and their involvement during normal times, so that they can develop their expertise and policies well in advance of crises and accordingly be able to do what is expected of them in an emergency. Their operational base within the communities at risk, their flexibility and their mobility make them a formidable tool for providing relief, particularly in the social domain.

## Partnership role of non-governmental organizations in a new disaster management paradigm

### Summary of presentation by Ms. Marcia Feria-Miranda*, Specialist in social marketing and partnership development (Philippines)

When disasters strike, they cut through artifice and social structures and reveal the cultural norms of a people. In the Philippines, the spirit of "bayanihan" or the Filipino spirit of cooperation naturally moves into place when volcanoes erupt and tropical cyclones destroy homes. Filipinos have a cultural basis for partnership and finding unity. It is one reason why partnerships, among NGOs, government and corporate sectors have formed to find ways to alleviate the ill effects of natural disasters.

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* Ms. Miranda is a specialist in social marketing and partnership development for disaster management. She designs and evaluates development programmes for the Association of Foundation (121 NGOs), the Corporate Network for Disaster Response, USAID, the World Bank, UNDP and others.

The Philippine NGO sector is one of the most dynamic in south-east Asia. It numbers in the tens of thousands. The participation of NGOs in Philippine development is mandated by law and circumstance. In a country where poverty is a blight and the government bureaucracy can be ineffective, private social development organizations have learned to combine criticism with action in the field.

Philippine disasters in recent years have forced Philippine civil society, with NGOs in the forefront to participate in disaster relief, resettlement and rehabilitation work. Corporations, whose workers were also victims of calamities, joined in sharing their resources to hasten the return to normalcy. Networks or partnerships for disaster response were formed among NGOs and among corporations who realized that no one sector possessed all the expertise required.

Why from partnerships? The resources for the magnitude of need are limited. Partnerships help stretch out meagreness. They help in knowledge sharing. They filter out the real NGOs from the fly-by-night NGO merchant. They provide a formal mechanism where government and private groups can speak on equal footing and minimize finger pointing. They help deliver sustainable assistance to displaced poor communities who after the volcanic eruption need jobs, roads, bridges and shelter.

There are questions now raised on how effective disaster relief partnerships have been in terms of getting things back to normal. On one hand, it is becoming apparent that not all organizations have the capability to participate in relief work with the efficiency, for example, of the Philippine National Red Cross. Relief has been observed to be often longer than a week, extending in some disasters to over six months. Non-governmental organizations looked for new roles that matched their capabilities.

The Philippine disaster experience has vividly shown that it is the disadvantaged communities that are the main victims of natural disasters. Relief does not automatically put them on their feet. Disaster after disaster the same communities are affected. Programmes other than relief are needed. Resettlement. Rehabilitation. Preparedness. Mitigation and prevention. NGOs need not crowd the relief begging bowl. There is room for all.

Poverty and the demands of sustainable development dictate the need for a new definition of disaster management that looks beyond the present linear concept of relief. A new paradigm that sees the interlocking reality between disasters and development.

There are blocks to the acceptance of this new paradigm. The first block is within government, donors and the NGOs themselves. Disaster relief is placed on a separate floor away from discussions of environmental degradation and land use planning. An acceptance of the paradigm will mean breaking up of divisions, changes in donor aid guidelines and NGO development programming.

A second is that there are no recipes for a disaster management partnership. The scale and complexity of a disaster dictates a unique mix of organizational resources and expertise. The disaster must cease to be viewed as a military logistical exercise.

A third is the attitude that disaster management is mainly the government's job. This has marked disasters as political exercises and heightened minute mistakes and diminished good public sector work. Civil society and NGOs have shown that they are effective partners in the work.

A fourth is our inability to accept the fact that at the heart of the disaster is a community of people who need to participate in planning their own future. A multitude of top-down decisions based on a score of national and international master plans compound the disaster by creating another disaster in themselves.

Non-governmental organizations are uniquely placed to bridge the transition to a new view on disasters that links it to sustainable development. As groups of citizens, they better understand the needs of communities at risk and as private organizations providing public services, they can better understand formal structures and responses.

## Cost of disasters: areas of cooperation with the insurance industry

### Summary of presentation by Mr. Gerhard Berz, Munich Reinsurance Company, (Germany)

Economic and insured losses from natural disasters have increased dramatically over the past few decades and most pronouncedly over the past seven years. If current trends persist, the annual loss amounts will double by the end of this decade, coming close to US$ 150 billion, of which roughly one third will be insured. Even some individual "worst case" disasters may exceed the US$ 100 billion mark.

In many insurance markets, natural hazards are covered by various classes of insurance. This entails making a close study of such perils to correctly estimate premium requirements, on the one hand, and loss potential on the other. To this end, insurers can draw upon extensive loss data and analyses from all parts of the world.

Insurance has an appreciable influence on the behaviour of the public and that of industry with regard to preparedness and mitigation. By making the right use of the instruments of insurance, especially deductibles, the insured can be motivated to take preventive measures. Following a disaster, the insurance industry provides prompt financial help and has, for the most part, an efficient loss settlement organization available for this purpose.

In the field of disaster preparedness, mitigation and relief, there are many areas of possible cooperation between the insurance industry and governmental, non-governmental and scientific institutions, as well as industry and the media. These include:

- Mapping of hazard zones;
- Assessment of loss potentials for disaster scenarios;
- Recommendations for regulations or restrictions on land use;
- Promotion and use of warning systems;
- Information, education and motivation of the public, industry and organizations;
- Analysis of disaster losses;
- Compilation of lists of competent institutions and experts.

Role of the private sector in disaster management

Summary of presentation by Mr. R. Natarajan, President, Union Carbide, Asia Pacific (Singapore)

Economies in the Asia Pacific are rapidly growing. So, too, are the number of deaths from industrial accidents. While these industrial accidents can happen on their own, they can also be the by-product of natural disasters.

Partly for these reasons, more and more countries and industries are becoming conscious of environmental protection and sustainable development. Greater attention is being paid to safe operation of plants and the safety of products. The great engineering works of the future will not be bigger dams and bridges, but more likely to be improved sewage works and safe waste disposal.

Industry has discovered that environmentalism is cost-effective. Green products based on green processes lead to better quality products, they protect the environment, and they are appealing to consumers. In the chemical industry, Responsible Care's product stewardship code commits its members to making health, safety and environmental protection an integral part of the company's business, all the way from product design to ultimate product disposal.

Prevention and mitigation of natural disasters needs to be linked to these trends. Some things are obvious, and are generally taken into account - an industrial plant should not be sited in a major city; a "green belt" can be built around a plant so that homes do not spring up right next to it. Based on the lessons learned in linking industrial growth and environmental protection, more could be done to ensure that natural disasters are taken into account in the development process.

While global industries have increased their obligations, efforts and successes in protecting the environment, and non-governmental organizations have been catalytic in getting government to do the right thing, many governments have no clear, cost-effective long-term sustainable and integrated policies for disasters and development. Standards are often lacking and on the other hand the crisis approach leading to "end of pipe" controls and over regulation is frequent. Government inspectors often lack the training and awareness to be a real party to the greening process under way in companies. Lack of political commitment to change the status quo leads to insufficient public awareness and education. Political leadership is not promoting a strong partnership between sectors.

There is much that industry can do in a partnership for sustainable development that takes disasters into account. It can work with government to develop standards and long-term policies. As an integral part of the community, industries can promote disaster preparedness through employee training, public education and simulation exercises. Industries can work with NGOs to build capacities for response, jointly provide community education and put buffer stocks and other resources into place.

Natural disasters are often measured in human suffering and property losses. Often overlooked are how many problems natural disasters can cause for business. Just as overlooked is the potential for technological disasters to occur as a by-product of natural disasters. Herein lies the opportunity to motivate government to form partnerships with industry and NGOs for prevention and mitigation of disasters.

This partnership could be the basis for broad-based country disaster management teams. Such teams could help refine government policies and vision on environment, disasters and development; help the private sector protect their interests and those of the community by allowing them to contribute in planning, logistic support and other resources; and enhance the effectiveness of voluntary organizations in building political and public awareness, by giving them a structured forum to participate in prevention and mitigation.

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# PROGRAMMES AND POLICIES OF THE INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

## REGIONAL REPORTS

### Reports of regional interest

The session on reports of regional interest has been organized by the Pan American Health Organization (PAHO) Regional Office of the World Health Organization (WHO).

### Introductory Statement by Dr. Claude de Ville de Goyet, Representative of the Pan American Health Organization, Regional Office for the Americas of the World Health Organization

The PAHO Regional Office is pleased and honoured to cooperate in the organization of this important session on regional reports.

As an intergovernmental agency since 1902, in a region prone to earthquakes, cyclones, floods, volcanic eruptions and other natural hazards, we are acutely aware of the heavy social and economic impact of disasters on our member States, especially the developing countries.

### Social versus economic impact of disasters

The activities for the International Decade for Natural Disaster Reduction and the international community have given significant attention to the economic losses resulting from disasters. Indeed, these are staggering in terms of development. Poor countries, however, usually pay a much heavier toll in human lives than their developed counterparts. Furthermore, as a

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health agency, PAHO is particularly concerned with the social impact on the least privileged groups. Perhaps it is opportune to remember the definition of health adopted by the World Conference in Alma Ata in 1978, which stated that the complete state of physical and mental well being and not merely the absence of disease.

Beyond any doubt, a satisfactory state of health, as defined above, cannot exist without reasonable safety from disasters. This is why PAHO/WHO is committed to the multisectorial promotion of natural disaster reduction as a health priority. As part of the inter-American system and the United Nations, it recognizes that disaster reduction is primarily the responsibility of each sovereign nation.

National, regional and global approaches

For the purpose of disaster reduction, one should adopt a pragmatic non-political definition of region, based on a shared vulnerability to common natural risks.

Vulnerability to natural hazards does not respect human borders or United Nations definitions of regions. It is something shared among neighbouring countries. In the case of disasters, a tremendous solidarity unifies the countries of the Caribbean and Latin America, which often set aside their political differences and national interests. Vulnerability and response are regional.

So should prevention and preparedness activities be. Much more, however, remains to be done in the World Conference on Natural Disaster Reduction. If certain tasks such as standardization of norms and guidelines are better achieved at a global level, many disaster reduction functions, not practical or affordable for one single country, are much better carried out on a regional basis. We believe that one of the main contributions of the present session is to identify clearly those actions that are better implemented at the regional level, and to ensure that this level of action, which is closer to the realities of the countries, is given appropriate visibility in the Yokohama Conference.

In Latin America and the Caribbean, disaster prevention, mitigation and preparedness have provided ample opportunities for cooperative projects between neighbouring countries, and cross-border networking among experts and officials. This has opened the door to new dialogue and joint ventures among countries of the region, as you will hear from some of the speakers. Jointly with other regional or subregional institutions, PAHO is pleased to have contributed to making this possible. With the cooperation of the regional officer for the International Decade for Natural Disaster Reduction in Costa Rica, we have attempted to report on the achievements of the countries of Latin America and the Caribbean and present our view of future perspectives for action in a publication entitled A World Safe from Natural Disasters: The Journey of Latin America and the Caribbean. In that document, we retrace the 20-year process in which the region has matured from providing an improvised response to disasters towards

safety for sustainable development. This long and as yet uncompleted journey has been made possible by the willingness of the countries to share experiences, cooperate and transcend their political borders to adjust those dictated by nature.

Host country

Presenter: Vice-Minister Ichiro Ichikawa

Japanese collaborative projects in Asian countries

Japan is located in an area subject to typhoons and also in the Pacific mobile zone where seismic and volcanic activities occur constantly and has been heavily damaged by natural disasters. Japan is not, however, the only country undergoing such an experience: many other countries in the Asian region are similarly affected, for example, the Philippines which is also located in an area subject to typhoons, and Indonesia which is also in the Pacific mobile zone.

Japan has steadily reduced damages from natural disasters by carrying out research and development on disaster prevention and implementing various disaster countermeasures, and has simultaneously been positively promoting to other Asian countries international cooperation in the field of disaster reduction through its technology and experience.

In this presentation, Japan's international cooperation for natural disaster reduction in the Asian region will be briefly described and some projects introduced. Japan's governmental sector performs the following international cooperative activities: (a) technical cooperation, including the acceptance of trainees; (b) grant aid; (c) direct Government loans; and (d) aid through multilateral organizations.

The budgetary appropriation for international cooperation for disaster reduction in the Asian region is approximately ¥ 81 billion in the 1992 fiscal year, or about 60 per cent of the total contribution to worldwide disaster reduction cooperation (¥ 137 billion). Disaster prevention projects carried out by means of Japanese loans in the Asian region are the Bili-Bili multi-purpose dam project in Indonesia, the Wuguiangxi dam project in China, for example.

Some projects which have been conducted to prevent common disasters in cooperation with developing countries will be presented, examples of which are as follows:

(a) International joint research on natural disasters;

(b) Research on the improvement of disaster prevention systems in developing countries;

(c) Third country training concerning disaster prevention and mitigation;

(d) Flood and erosion control technology centre;

(e) Exchange of information on natural disasters, such as meteorological data;

(f) Research on remote sensing and disaster monitoring by satellites;

(g) Natural hazards map.

It is extremely important to gather each country's resources for reducing damages from natural disasters. Japan intends to make further efforts in international cooperation for disaster reduction in the Asian region as a member State of that region.

## Panel on Africa

### Summary

After brief introductory remarks, the session will continue with oral presentations, each of five minutes duration, on the four major natural disaster phenomena afflicting Africa: drought and related desertification, pest infestation, hydrometeorlogical and geophysical disasters. Each presentation is expected to be complemented by a written summary which would be distributed, preferably prior to the session.

Each presentation is required, first, to provide a very brief overview of regional disaster reduction activities, highlighting specific practical accomplishments and identifying the major obstacles encountered, including their underlying causes. Secondly, based on the lessons drawn, presenters will offer an outline of revised short-term and medium-term strategies and action programmes for mitigating the disaster phenomenon within their purview.

A major theme of the African regional report is that natural disaster reduction forms an integral part of the simultaneous quest for sustainable development and the satisfaction of vital needs of Africans: food, water, shelter, energy, health and remunerative activity. For instance, drought management is the quest for food security and ingenious water harvesting for domestic and industrial use. New techniques in insect sciences should minimize the devastation of food crops caused by locusts and grasshoppers, enhance food security and increase precipitation, thereby maintaining vegetation cover in semi-arid zones. Advances in meteorology can strengthen early warning and preparedness capacities against tropical storms and floods. Alternative energy sources could improve the prospects of adequate forest cover by the avoidance of premature tree felling for shelter and domestic fuel. Advances in, and interaction between physical, biological, social and engineering sciences should improve the survival chances of Africans against the impact of inevitable natural disaster phenomena.

Particular attention will, therefore, be paid, inter alia, to the plans of each specialist field for strengthening the network of electronic information exchange at the national, subregional and regional levels, domestic resource mobilization and the dissemination of new techniques to the vulnerable local communities in Africa.

Twenty-five minutes will be devoted to interventions from other participants. Concrete suggestions will be invited on some of the above issues. There will also be interest in discerning how research and development endeavours can reduce Africa's vulnerability to natural disasters, notably through active community participation and the incorporation of its results into the strategies and programmes for implementing sustainable development at the local, national, subregional and regional levels. During the final 15 minutes, panellists and the moderator will summarize the discussions and make concluding observations.

Panel on Europe

Activities of CIS countries in the IDNDR framework

Presenter: Mr. Sergei Shoigu

The report outlines the geographical characteristics of the Euro-Asian region, occupied by the CIS countries, with particular reference to the natural disasters that most often occur in the area.

It describes national systems of disaster management of the CIS countries, including goals and targets of the systems, their governing bodies, staff and facilities, and how disaster management is integrated into their national and general security systems. It explains national disaster management procedures and their relation to the goals and targets of the IDNDR.

National committees have been established to coordinate activities in the IDNDR framework, with an appropriate structure, mandate, authority and interrelationships with scientific, commercial, public and other institutions. Legislation, rules and procedures have been introduced and enacted in relation to the activities prescribed in the IDNDR framework.

The activities of CIS members in the IDNDR framework include the implementation of national plans and programmes for IDNDR, building upon practical results in disaster management achieved in prior years. Overall characteristics of the national projects related to IDNDR are described, including projects under way, results, obstacles and shortcomings.

Regional collaboration of CIS members in the IDNDR framework is guided by the Interstate Council for emergencies of natural and technological origin. An outline is given of this Council's regional activities in the IDNDR framework, along with problems encountered and assistance required. The CIS members are ready to assist other countries as part of their cooperation in the IDNDR framework.

Finally, proposals are made for the main activities to achieve the IDNDR targets in the second half of the Decade. At their fifth meeting, held at Moscow on 1 and 2 October, the Ministers for the EUR-OPA Major Risks Agreement of the Council of Europe adopted the Moscow Charter recognizing the Agreement as a platform for cooperation on natural and technological hazards between eastern Europe, the southern Mediterranean and western Europe.

The Agreement is an example of harmonious East/West and North/South cooperation in preventing and protecting against natural hazards.

The presentation will begin with a description by Mr. Jean-Pierre Massue, Executive Secretary, of the Agreement's contribution to natural hazard prevention in the Mediterranean basin:

(a) Training in hazard sciences (through the European network of specialized centres under the Agreement: Madrid, Monaco, Malta, Strasbourg, Ankara, Ravello and Athens, and the European programme for training in hazard sciences, FORM-OSE);

(b) Comparative analysis of hazard management legislation and research by European centres in seismology and marine pollution.

Professor A. Hebeish, President of the Egyptian Academy of Sciences, will report on a survey of the current availability of training in hazard sciences in the Mediterranean basin.

Professor F. Rizzi, Director-General of the University of the Mediterranean (UNIMED), will report on the preparations for the pilot project for the implementation of hazard science training modules in cooperation between Mediterranean universities.

Ambassador S. Canavesio will describe Italy's contribution to natural hazard prevention and protection in the Mediterranean from the viewpoints of seismicity, desertification and marine pollution.

South Pacific

Presenter: The Honourable Tuilaepa Sailele Malielegaoi

The presentation is on the overall situation relating to natural disaster reduction in the South Pacific. The region is made up of 22 island countries - 13 independent nations and 9 territories - spread over 30 million square kilometres of the Pacific Ocean but with a combined land area of only 550,000 square kilometres. The larger islands are of volcanic origin, but the vast majority of the thousands of islands in the region are small, low-lying coral atolls which rise no more than four metres above sea-level at the highest point. Several countries are made up entirely of atoll islands.

Many different types of natural disasters affect the South Pacific island countries, with tropical cyclones the most frequent and the most damaging. Should changes in the global climate result in a rise in the sea level as presently predicted, the impact in the South Pacific would be catastrophic.

The presentation describes developments in disaster management in the region up to now, identifies areas on which more attention should be focused and puts forward concrete suggestions on ways to improve disaster management in general and promote IDNDR activities, in particular in the next five years, through regional cooperation and coordination.

The principal issue in the South Pacific is the reduction of the impact of frequent and severe natural disasters on the lives and the livelihood of highly vulnerable island communities. Such is the fragile nature of the islands' overall environment that the impact of natural disasters can seriously disrupt, even reverse development processes, and put beyond reach the goal of sustainable development.

The suggested strategy for natural disaster reduction in the South Pacific follows the approach recommended under IDNDR of incorporating, as an integral part of development plans to achieve sustainable development, the key elements of hazard and risk assessment, mitigation measures aimed at long-term preparedness and prevention, and ready access to reliable disaster warning systems. The success of such strategy depends on the recognition and acceptance by the political and community leaders of the importance of disaster management in the overall development of their countries. On the other hand, the effective formulation and implementation of disaster management measures would depend on the availability of trained personnel, an informed and responsive public, and efficient organization.

The Decade has had minimal impact in the South Pacific. There are, however, several disaster management programmes and projects under way in the region but these are uncoordinated and their effectiveness uncertain. The Decade has presented the opportunity and the impetus to coordinate disaster management activities in the region, a step which should result in maximum cost-benefit and improved disaster management processes, which should in turn lead to the achievement of the IDNDR targets by the year 2000. Regional cooperation in this area has already started with the successful coordination of the preparation of national and regional reports for the World Conference by the South Pacific Regional Environment Programme (SPREP), a regional organization in which all the South Pacific island countries are represented, and whose governing council has full policy and decision-making powers on behalf of its members.

The South Pacific region would like to see from the World Conference a firm commitment by the world community to natural disaster reduction, demonstrated by the establishment of a secure funding arrangement to assist IDNDR-related activities, particularly in the developing countries, and the establishment also of a simple and workable mechanism through which scientific and technical

knowledge and expertise on disaster management are made readily available for use in developing countries.

Additionally, the region would like the World Conference to recognize the special situation of developing island countries: this point is underlined by the request to appoint a representative from the South Pacific on the Scientific and Technical Committee for the Decade.

Cooperation between the United States of America and Mexico in natural disaster reduction

Presenters: Mr. Raul García Leal, Mexico, and Mr. James Lee Witt, United States of America

The United States of America and Mexico share many of the same hazards, and both have large populations at risk. The two countries have both experienced deadly earthquakes in recent years, even sharing the same fault system, the San Andreas. Tsunamis, some originating as far away as Hawaii, have hit Mexico and the United States of America. Two volcanoes, Mount Saint Helens and El Chichón, erupted in 1980 and 1982, respectively, with devastating impact. In 1988, Hurricane "Gilbert" hit Mexico and then hooked through the United States of America. Droughts are currently affecting portions of both countries.

The scientific understanding, technical know-how, and planning and response capability of both countries are substantial and can be utilized for mutual benefit. Mexico and the United States of America are sharing information, expertise, and cooperating on a variety of fronts in the effort to reduce vulnerability to natural hazards. Following are a few highlights of these joint efforts; while they are certainly fruitful efforts, much more can be done:

(a) Scientific and engineering exchanges: Joint research projects are carried out between academic experts from both countries to advance the knowledge base for managing shared hazards;

(b) City-to-city collaboration: Cities in both countries (e.g. Mexico City and Los Angeles) have ongoing exchanges of information and city personnel for disaster mitigation, response and recovery planning;

(c) Professional partnerships: As part of the United States of America-Latin American Partnership, local earthquake professional from the public and private sectors in both countries have met to exchange information, expertise, and experience;

(d) United States of America-Mexico Consultative Agreement on Natural Disasters: An inter-institutional cooperative agreement between the emergency management/civil defence agencies is in place to facilitate the management of natural disasters along the countries' shared border region. Activities in risk assessment, mitigation and response planning have been carried out.

Panel on Asia

Presenter: Ms. Jiang Li

## Combined use of national technology and management capacity in disaster reduction

This report outlines the serious damage done by natural disasters in China and the history of efforts by the Chinese people to combat them; it describes the composition, terms of reference and activities of the Chinese National Committee for IDNDR; it lays emphasis on the combined use of national technology and management capacity for disaster reduction, a matter of importance in disaster reduction in the region of Asia and the Pacific.

An important feature of Chinese disaster reduction is that it draws on natural disaster monitoring and early warning systems put in place by government departments of hydrology, meteorology, oceanography, seismology, agriculture, forestry, geology and so forth from the centre down to local level to construct a first line of defence against disasters around a core of advanced technology.

The technological capabilities most used by China in disaster reduction are dams and flood control, drought control, earthquake precaution and control, geological disaster prevention, forest shelter-belt systems and sand-breaks, forest fire prevention and control and biological disaster prevention and control projects; they form the core of disaster reduction efforts.

Satellites, aircraft, remote sensing, communications and computers, to take but some examples, are among the advanced technologies extensively used in disaster reduction in China, and a vast quantity of research findings are put to positive use, thereby reinforcing and increasing China's technological and managerial capabilities in disaster reduction.

While attaching importance to the heightening of technological disaster-reduction capacity, the Chinese Government has also reinforced its overall managerial capacity: the Central Government and the governments of disaster-prone areas have set up combined disaster-reduction machinery and strengthened disaster-reduction management, laying down disaster-reduction programmes and investigating disaster-reduction strategies and countermeasures, following the guiding principle that prevention saves lives and should go hand-in-hand with relief.

Taking the example of China's efforts to combat major natural disasters in recent years, the report vividly depicts the combined use of national technology and management capacity in disaster reduction to mitigate the destructiveness of natural disasters: this is a common requirement in the Asia and Pacific region. An increase in the use of such capacity would be an outstanding contribution to the goals of the International Decade for Natural Disaster Reduction.

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# PROGRAMMES AND POLICIES OF THE INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

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LATIN AMERICAN PANEL

Presenter: Mr. Luis Busco Costa

Topic: Cooperation between neighbouring countries and bilateral agreements in border regions

In the past, Latin American countries have made great efforts to bring about genuine regional integration. These have normally been aimed at the economic sphere, but unfortunately in practice have not produced the results hoped for.

In the area of disasters, however, States can point to substantial progress, in cooperation, assistance, mutual aid and solidarity.

Being a huge region with difficult geography, permanently prey to phenomena which are often catastrophic, Latin America has learned from experience that agreements and treaties between neighbouring countries are best suited to tackling disasters that strike at common borders.

This has been clearly visible since the beginning of the 1980s, when two-nation and subregional agreements especially designed for border regions, where towns are affected by similar phenomena, were cemented.

At present, cooperation treaties and agreements on disaster prevention, mitigation and relief are in operation at different levels of development, involving exchanges of experience, information, monitoring, early warnings, training, emergency stocks, etc. There are also countries which, although having no formal, signed agreements with each other, do deal with these matters at the local level.

Signed agreements between Mexico and the United States, Mexico and Guatemala, among the Central American countries and between Colombia and Ecuador, Colombia and Venezuela, and Chile and Peru, to name but some, are now being applied. Argentina, Uruguay and Paraguay have conducted joint activities in border towns in relation to flooding by rivers in the region.

The Treaty for Amazonian Cooperation and the Hipólito Unánue Convention, are wider-ranging instruments covering different areas of cooperation, but they also include the problem of disasters.

In brief, Latin America may be said to have made a lot of progress in this field over the past decade. This is due in part to efforts by international organizations working in the region and elsewhere which have supported and encouraged such relations.

In conclusion, recognizing that current efforts need to be consolidated and expanded, Latin America has shown that it is entirely possible to reach agreement and consensus among countries on this subject. The remaining years of IDNDR and thereafter offer a magnificent opportunity to build on such cooperation;

assistance from international agencies and donor countries will be crucial to the attainment of these objectives.

Notwithstanding the above, it is important that any agreement or treaty signed in the future, regionally or between countries, and whether economic, cultural, scientific or other, should specifically include the disaster element as another means of bringing about the sustainable development to which all nations aspire.

Presenter: Mrs. Norma Zepeda Valdez

Regional-level training

Little by little, the advent of the International Decade for Natural Disaster Reduction has altered the situation of unpreparedness that prevailed at the beginning of the 1970s. Today the need for foresight, preparation and mitigation is increasingly evident. It is clear, however, that without well-trained human resources, laws, emergency plans and other efforts will not be enough.

Hence the outcome of the training initiatives launched in the region over the past decade has been of considerable significance.

Advances in this field mean that training efforts in all countries no longer influence just experts and professionals, but also political decision makers, secondary educational institutions and the community.

A body of regional and subregional regulations on disaster administration has developed, since the majority of professionals have attended various interactive training schemes with encouragement from such specialized agencies as OFDA, PAHO, OAS, CEPREDENAC, INSARAG, ICAP, IGAC and CISMID. Under a UNDP/DHA initiative, the United Nations is working on a programme for its officials commonly known as the Disaster Management Training Programme (DMTP) with support from PAHO and OAS.

Another important advance has been the periodic meetings held to enable professionals from different subregions to consider what progress has been made, and to identify solutions to common problems. These efforts have enabled full advantage to be taken of valuable experience and an exchange of information among experts in different disciplines.

Over the past few years training has extended to universities, a key sector for professional and cultural training in any social system; little by little the subject has been introduced at the undergraduate level in some institutions and at the postgraduate level in public health, medical and nursing schools; similar developments have taken place in social communications and education and, recently, in engineering and architecture.

School disaster-education curricula, introduced in the region in the 1980s and supported by UNESCO, national and international non-governmental organizations in Central and South America, ministries of education and emergency bodies, have yielded positive results.

The general public, as an active participant in efforts to deal with the problems it faces, has not entirely escaped disaster training: "community and university work programmes" and "research and action to promote local organization to handle emergency situations" are under way, with encouragement from PAHO and cooperation from Italy.

Lastly, although the level of human resource training related to disaster administration is considerably better than it was at the end of the 1970s, the current level of development and ever-increasing demand in the region force us to look to the future and consider what fresh efforts could continue to improve disaster training in the region.

Presenter: Mr. Fernando Guerrero

Efforts are being made in every country around the globe to optimize and make use of existing resources to prevent the natural disasters that threaten our people. States evidently need to be involved in funding such activities, and in making the public aware of the extent of natural risks and how to avoid them. A seven-point proposal is put forward, emphasizing the need for constant training in this area, for the natural disaster factor to be taken into account in the course of regular studies, for effective legal backing, and for reciprocal treaties. Reference is also made to the vital need for communication between politicians and parliaments, channelled through natural disaster committees that should be established in every country; and to the involvement of non-governmental organizations and the media in plans of action.

Presenter: Mr. Luis Diego Morales

Topic: Cooperation between regional scientific institutions

Advances in scientific knowledge and the frequency of various kinds of disaster in the region have strengthened perceptions of our physical and social vulnerability and, hence, of the imperative need for the constant transfers and interchanges that take place within the scientific community to be made accessible to disaster prevention and relief bodies and planners, so that information can be efficiently applied in the process of disaster reduction.

There is a long tradition of information-sharing among scientists which, little by little, has been extending to national and regional earth science associations, some of them active worldwide, and hence a formal scientific cooperation network has gradually grown up. In Latin America, the case of the Regional Seismology Centre for South America (CERESIS) is relevant: it has strengthened and expanded cooperation among countries and their scientific and technical organizations. A more recent instance is that of the Coordination Centre for Natural Disaster Prevention in Central America (CEPREDENAC), which, thanks to Scandinavian cooperation, has looked at the entire process of disaster reduction, involving scientific and technical institutions and disaster prevention and relief bodies from every country in Central America, promoting institutional development, horizontal cooperation and scientific and

technological transfer with more developed cooperating countries. In recent years there has been a notable growth in national centres enjoying Japanese support which cover the region, in Peru (CISMID: Centre for Seismic Research to Mitigate Disasters), and Mexico (CENAPRED: National Disaster Prevention Centre). In conjunction with the UNESCO regional earth sciences programme and with participation from various national organizations it has thus been possible to establish an increasingly formal network of cooperation and scientific and technological transfer in the region. One notable development has been the recent creation of a regional group of social science researchers for disaster prevention (LA RED), supplementing a nucleus of research in physical and social fields which has been needed to give a steadily fuller picture to planners, politicians and decision-makers and to the most vulnerable communities.

The strengthening or establishment of regional documentation centres supporting all disciplines, incorporating such communication media as electronic mail to facilitate information transfers and communications between earth science institutions and their researchers and users, is to be recommended.

Horizontal cooperation between Latin American countries and between institutions in developed and developing countries should continue to be strengthened in order to facilitate transfers of science and technology, pool experiences and establish early-warning systems in order to save lives, making use of the land in ways that exploit its comparative advantages while reducing the vulnerability of the human population and its works.

Presenter: Mr. Ciro Ugarte Casafranca

Topic: The health sector: from preparation to prevention

HEALTH IS NOT JUST MEDICINE

Health is considered to be a state of complete physical, medical and social well-being, not just the absence of afflictions or diseases. The WHO slogan "Health for All by the Year 2000" chimes with efforts to reduce natural disasters in order to secure greater well-being for mankind.

LEADERSHIP OF REGIONAL PREPAREDNESS EFFORTS

Until the earthquakes in Peru (1970) and Guatemala (1976), responses by the health sector used to be unplanned and carried out without prior training. Thereafter, the ministries of health of the Americas agreed to give priority to preparing their sector to cope with disasters: the "relief only" stage was past.

Technical documents on dealing with disasters were drawn up. Training and sectoral planning made it possible to cope technically with health activities during disasters, and has clearly influenced other sectors.

COOPERATION BETWEEN COUNTRIES

The ministers of health of the Central American countries, the Andean area (Hipólito Unánue Convention) and southern Latin America meet periodically. The topic of "disasters" is given priority at such meetings, and joint programmes of action are drawn up.

There are yearly meetings of national experts on emergencies and disasters. In many cases, civil defence, foreign relations, planning and parliamentary officials also take part, improving cooperation between countries.

ACTIVE AND COORDINATED PREVENTION AND MITIGATION

Between 1985 and 1986, during the earthquakes in Chile, Mexico and El Salvador, the health services responded appropriately thanks to prior preparations. Patients, doctors and nurses did die, however, when trapped as hospitals collapsed, and hospital infrastructure and equipment suffered severe damage.

Experts from the region met with a view to reducing the effects of disasters on hospitals. Disaster reduction guides and manuals were drawn up in a coordinated manner, promoting the application of uniform standards.

On the International Day for Natural Disaster Reduction, under the slogan "Disaster prevention in schools and hospitals", the countries of the region agreed to produce and distribute widely written, pictorial and video information, to hold meetings at the highest political and technical levels, and to stage training exercises at hospitals and schools.

CONCLUSIONS

1. Health, as a basic necessity, nowadays presents fewer problems and has enabled cooperation over disasters among Latin American countries to become more fluid and productive.

2. As disaster reduction does not completely eliminate damage, the Decade should lay special emphasis on disaster preparedness.

3. A regional conference on disaster mitigation in hospitals, involving countries, donor agencies and international organizations, needs to be held. Such a conference would help to secure the political backing essential for more solid health services.

4. Cooperation between countries depends on close, "uncensored" contacts between the individuals responsible. Hence, modern electronic networks need to be set up to permit contacts between countries and among their institutions.

Presenter: Mr. Omar Dario Cardona Arbolida

Disasters are nothing more than the materialization of risks which depend not only on some disrupting or triggering factor - in this case a natural or

technological phenomenon - but on a degree of vulnerability that favours the occurrence of a crisis. Such social and environmental conditions are generally the result of the kinds of development pursued and the debt accumulated with nature, which in turn incubates or gestates within society. In other words, disasters are unresolved development problems which should be analysed from an economic viewpoint, not simply as facts of nature to be explained in purely technical terms. Vulnerability in its various forms is nothing more than a shortfall in development, an overdrawn environmental account, to which preventive management and planning efforts should be directed in order to reduce or avert the social, economic and environmental consequences.

These are among the conclusions reached by government representatives in the Americas and by regional and subregional governmental and non-governmental organizations, institutions and bodies, professionals, professors and researchers at public and private institutions who met for the Inter-American Conference on Natural Disaster Reduction in Cartagena de Indias, Colombia, in late March.

The recommendations set out by participants in the Cartagena Declaration were: developing techniques for monitoring and tracking vulnerability as it builds up, geographically and socially; involving communities and stressing their participation; conducting studies of disasters which combine social with technical and scientific aspects and civilian society with government bodies; pressing to have educational curricula make prevention a part of the culture; establishing networks of institutions and documentation centres; strengthening organizational and administrative systems concerned with disaster prevention and relief in the light of decentralization and public participation; emphasizing prevention, not just emergency relief; promoting horizontal cooperation by international bodies; and the introduction and application by global and regional financial institutions of financing policies that support disaster prevention and mitigation initiatives in the region.

The first of an exchange of experiences and views on the opportunity provided by IDNDR, not only to attract the interest of scientists and technologists but to create the necessary political and administrative will and secure community acceptance of the notion of disaster reduction, the Cartagena Declaration indicates, in brief, that reducing vulnerability should be made an explicit part of planning for sustainable development.

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Caribbean

Presenter: Mr. Jeremy McA. Collymore

## Cooperation in disaster management: the Caribbean experience

This paper prepared for the World IDNDR Conference, Yokohama, Japan, provides an overview and review of the efforts of the English Speaking Caribbean to facilitate action in disaster preparedness and reduction.

The long regional tradition of cooperation in diverse areas of disaster management is emphasized. Consequently, the international community is reminded that the IDNDR must not be seen as the beginning and end of our efforts to reduce the loss of life and property.

In reviewing the status of disaster management in the Caribbean today, the diversity of regional entities is described and a call for a comprehensive regional focal point is being reiterated. The stated objectives of the IDNDR is the benchmark against which regional achievements are measured.

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Looking towards the future, the paper makes a strong call for an overhaul in the way in which the IDNDR is being promoted at both the international and national levels. It stresses the need for the blending of technologies and knowledge sources as an indispensable approach to the sustainability of any gains made during this era of international focus on disaster management.

Panel on Asia

Presenter: Mr. Cengiz Ertuna

A review of recent natural disasters in Asia

Natural disasters are estimated to have claimed about 3 million lives around the world in the past 25 years and the damage caused to property is assessed at about US$ 200 billion. Asia has been one of the most affected regions in the world: it is estimated that over 50 per cent of the world's major disasters occur in Asia. Since the International Decade on Natural Disaster Reduction began in 1990, the total number of deaths in Asia as a result of natural disasters has exceeded the 200,000 mark. The estimated total damage to property is about US$ 45 billion.

Floods, droughts, cyclones, storm surges, earthquakes, landslides and volcanic eruptions periodically affect a large number of countries in the region, causing great loss of life and extensive damage to property and infrastructure. In many coastal areas of Asia prone to damage by tropical cyclones and storm surges, the population is growing rapidly, together with the pace of economic development. Because of economic and population pressures, increasing numbers of people are living in volcanic danger zones. Large numbers of lives are lost owing to poorly designed and constructed dwellings in earthquake-prone areas.

The national economies of developing countries in Asia are significantly affected by the loss of scarce resources that could otherwise have been used for social and economic development. The impact of natural disasters is much higher in the developing countries in the region than in the developed countries and it is usually the poor who are most affected.

The most common of the water-related natural disasters in Asia are the floods. Almost all of the countries in Asia frequently experience severe flooding. Although floods today do not claim as many lives as storm surges, they affect both urban and rural residential areas, as well as agricultural areas and cause the greatest damage to property. In some ares, floods triggering landslides or mudflows claim significant numbers of lives. Floods are the most frequent and thus the most destructive natural hazard affecting the region.

Most of the great disasters associated with tropical cyclones have been caused by storm surges in Asia. Storm surges occurring several hours in advance of the landfall of a tropical cyclone can hit a coastal area while people are still being evacuated and can therefore cause extremely high loss of life and material damage.

Droughts may affect large parts of the population, causing human misery in the region, particularly if remedial measures are not taken in advance. Although droughts generally occur in semi-arid or desert climates in Asia, they may also severely affect areas where the average rainfall levels are reasonable.

The main geological hazards that affect Asia are the earthquakes, tsunamis, volcanic eruptions and landslides. The region covers many areas of high seismic activity and volcanism. It has been estimated that, during the past 300 years, over 2.5 million have died around the world as a result of earthquakes and that nearly 75 per cent of those fatalities occurred in Asia and the Western Pacific. Volcanic eruptions in large island countries of Asia located at the Western Pacific rim have also claimed considerable numbers of lives. Tsunamis are among other hazards that affect these countries.

Presenter: Ms. Corazon de Leon

Public information and the people factor in disaster reduction

The people themselves must assume a responsibility in disaster mitigation for sustainable development. This response from the people may, however, be expected only if they are aware and properly informed to be able to move them into the required action towards disaster mitigation for sustainable development.

The information programme aims to ensure safety of the people and to sustain life and property. It is expected that, fortified with relevant information, people's capability to respond quickly and appropriately to disasters will be increased, thus greatly reducing their vulnerability to disasters.

Three types of information have been identified towards disaster mitigation: (a) risks and hazards involved for each type of disaster; (b) appropriate behaviour/action expected of them thus increasing their preparedness in responding to disaster; and (c) resources at the family, community and national levels.

The information programme may be implemented at three levels. One is by working through credible people who could be influencers or communicators, who could assist in translating science and technology in a language and at a level people can understand. Another is through multi-media, who through realistic, pragmatic and responsible reporting, can influence people to take action and assist in resource identification and mobilization. The most direct approach is through interpersonal communication with the principal objectives of developing a firm resolve among the people to take action, increasing their capability to respond to crisis and decreasing their vulnerability from disaster. This may take the form of community assemblies, forums, dialogues and utilize three-dimensional mapping and visualization to help increase people's understanding and appreciation of the need to participate in disaster mitigation.

To ensure success of the information programme, policies supporting same should be formulated and translated into long-term action plans and short-term contingency plans. The preparedness plans, contingency plans and disaster mitigation plans could be integrated in the curriculum at all levels of the information programme.

These policies and plans are based on data gathered at the local levels. Through tools such as the geo information system (GIS), aggregation of data at high level and at larger scales will be made much easier and faster thus facilitating regional and global exchange monitoring and action.

Panel on Asia

Presenter: Mr. Shri K.B. Saxena

Critical policy commitments for the development of national action plans for south and south-east Asia

The Asian region faces the largest share of natural disasters. Governments have, therefore, over the years evolved and developed policy commitments to cope with them. The measures taken include integrating disaster concerns in development programmes, making use of science and technology, especially for forecasting and warning, and increasing preparedness and mitigation measures both structural and non-structural. Regional cooperation in some fields through bilateral and multilateral arrangements has also been taking place. Reducing the impact of natural disasters has, however, been limited, and can be attributed to: (a) gaps in linkages between natural disaster reduction and development; (b) inadequate preparedness particularly at the cutting edge level; (c) lack of sensitivity on differential vulnerability; and (d) inability to view community as a focal point of effective response.

The positive action to bridge these gaps lies in the renewal of policy commitment, allocation of adequate resources, institutional capacity-building, training, education and orientation for seeking community involvement.

The issue that needs to be addressed must be a review of existing mechanisms for establishing linkages between natural disaster reduction and development programmes and to reorient them by:

(a) Building up an institutional mechanism within the structure of planning and implementation of development programmes;

(b) Taking up disaster reduction projects in critically identifiable areas;

(c) Promoting community capability to countervail against dilution of commitment;

(d) Strengthening mechanisms for the enforcement of regulatory provisions.

The building up of national capability would require (a) revamping of existing institutional arrangements and legal support systems; (b) preparing contingency action plans at the national, sub-national and community levels, in addition to those for specific projects and high risk areas such as megacities near the coast; (c) adequate resource allocation on a regular basis to agencies involved in disaster reduction and management; (d) improved vulnerability analysis and accurate risk assessment; and (e) strengthening forecasting, warning and monitoring systems.

The Asian region also has the largest number of poor, socially disadvantaged groups. The need, therefore, for dovetailing differential vulnerability into programmes of disaster reduction and development should assume high priority. This could be achieved through:

(a) Identification of such groups;

(b) Integrating measures for reducing their vulnerability in various programmes;

(c) Prescriptions for disaster reduction consistent with survival of these groups;

(d) Sharply focused poverty alleviation programmes;

(e) Building of awareness through the efforts of Governments and non-governmental organizations.

The Asian region has some of the oldest civilizations, where the community has a strong presence and has built up resilience against natural disasters. This is an asset which needs to be reinforced by recognizing the community as a unit of development planning and as a critical level for decision-making, taking up programmes promoting community efforts, sharing knowledge concerning traditional disaster management practices and fostering equitable distribution of benefits while promoting community solidarity.

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